DOCUMENT RESUME

ED 267 579 EC 182 100

AUTHOR Rockman, Barbara K.
TITLE Phoneme Generalization as a Function of Morpheme Boundary.
PUB DATE Nov 85
NOTE 11p.; Paper presented at the Annual Convention of the American Speech-Language-Hearing Association (12th, Washington, DC, November 22-25, 1985). Print is light and broken.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Articulation Impairments; *Generalization; Phonemes; Preschool Education; *Speech Improvement; *Speech Therapy

ABSTRACT

The study was designed to explore whether learning a phoneme in a word-final position facilitated production of the same phoneme word medially or intervocalically in six 3 to 5 year olds with articulation disorders. A stimulus-response-reinforcement approach to treatment was used that elicited both imitative and spontaneous responses. Probe lists consisted of 40 imitated words, 10 with /s/ in the word initial position, 10 with /s/ in the word final position, and two sets of 10 words with /s/ in intervocalic, or medial position. Results revealed that only three Ss generalized to positions other than the final, or trained position. Analysis of these Ss suggested that they internalized something about the morphological shape of the final /s/ morphemes. It was concluded that training fricatives in the final position is effective in facilitating generalization to intervocalic or medial position in general, but especially to medial contexts where morphemes that end with /s/ are inflected. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED267579

PHONEME GENERALIZATION AS A FUNCTION OF MORPHEME BOUNDARY

Barbara K. Rockman
California State University, Hayward

Phonologically-disordered children have typically been taught phonemes in the initial position first, then the final position, and last, in the medial or intervocalic position. In the study I am about to describe, for a variety of reasons, phonemes were taught in word-final position only. This decision to train phonemes in the final position presented an opportunity to explore another important aspect of phonological acquisition – the role of the morpheme in phoneme learning. With training provided only in word-final position, it was possible to explore how learning a phoneme in morpheme-final position affects generalization of that phoneme to other word positions, specifically, intervocalic position. It seemed reasonable to expect that if a phoneme was learned as the final segment of a morpheme, as in miss, it would also be produced correctly when it occurred at a morpheme boundary, e.g., miss+ing, where it would then be in word medial, or intervocalic, position. Thus, the purpose of this study was to explore whether learning a phoneme as the final segment of a morpheme facilitates production of the same phoneme word medially or intervocalically.

Word medial position can be analyzed into at least two categories:

1) words composed of a single morpheme, in which the phoneme of interest is both morpheme and word internal (See Table 1).

2) words composed of two morphemes, in which the phoneme of interest is word internal, but occurs at a morpheme boundary (see Table 1).

EC182100

Presented at the annual convention of the American Speech, Language and Hearing Association, Washington, D.C., 1985

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Barbara Rockman
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

One of the questions addressed in this study is whether subjects trained to produce /s/ in words like "hiss" or "mouse," where /s/ is morpheme final, will more readily produce these phonemes correctly in intervocalic position in words containing two morphemes, like "hissing" and "mousie," than in single morpheme words like "lasso" or "wrestle."

Method: Subjects were six children between the ages of 3-7 and 5-2, who demonstrated errors in at least four sound classes and whose speech intelligibility was judged as poor. Subjects were taught to produce /s/ in the final position first of nonsense syllables and then of lexical items constructed from these nonsense syllables, e.g., /us/ and moose; /Is/ and hiss. A stimulus - response - reinforcement approach to treatment was used that elicited both imitative and spontaneous responses. Treatment continued until subjects generalized correct /s/ production to 50% of the items on a 40-item imitative probe list (see Table 1), or for a maximum of 30 sessions. All responses were tape recorded and scored independently by two trained listeners. Inter-listener agreement for the total of 51 generalization probes administered during the course of training ranged between 92 and 100%.

Probe lists consisted of 40 imitated words, 10 containing /s/ in the word initial position, 10 with /s/ in the word final position and two sets of 10 words with /s/ in intervocalic, or medial, position (See Table 1). In keeping with the hypothesis of the study, two types of intervocalic or medial contexts were designed:

1. Single morpheme or monomorphemic words. In these words, /s/ is word medial and also morpheme medial, e.g., possum, lasso.

2. Two-morpheme or bimorphemic words. The first morpheme ends with /s/. The second morpheme is an inflectional suffix and begins with a vowel, e.g., pass+ing, boss+y, loos+er. Eight of these words contain morphemes found in the final position probe list, with a grammatical inflection added. The two remaining words in this group of ten are inflected forms of two of the training words, hiss and boss (hissing and bossy). (See training words at bottom of Table 1). In all of these words, /s/ is word medial, but morpheme final.

BEST COPY AVAILABLE

Results: Only three children, Ss 2,3 and 6, generalized to positions other than the final, or trained, position. Results are presented for these 3 subjects. In Table 2, the number of correct productions by each subject, in each position category, is shown.

The first comparison of interest concerns the relationship between the final position and the two-morpheme medial position. Two subjects, S2 and S6, showed approximately equal productions in the morpheme-final position, e.g., mouse, and in the two-morpheme intervocalic position, e.g., mousie. Their earliest productions of /s/ occurred in both contexts with approximately equal frequency. (See Table 2). However, the third subject, S3, showed a clear order of acquisition, with the final position being firmly established prior to any generalization to word-medial, or intervocalic position.

The next comparison concerns the relationship between the two medial positions. Looking at columns 3 and 4 of Table 2, all subjects showed earlier and stronger production in the medial position where /s/ occurs at a morpheme boundary (morpheme-final) than in the medial position where /s/ is morpheme-internal. S2 closes the gap betwen the two medial positions by his final probe, but S3 and S6 continue to show discrepancies in their mastery of these two medial contexts. The differences in children's mastery of these two intervocalic contexts is further illustrated in Figure 1.

Further evidence for some type of morpheme factor is seen when the total number of correct responses for each position, across all probes, is examined. In Table 3, the total number of correct responses produced by each subject in each position is shown. Not surprisingly, total correct responses to the final, or trained, position outnumber all other categories two to one. However, responses to medial position where /s/ occurs at a morpheme boundary outnumber

BEST COPY AVAILABLE

correct responses to medial position where /s/ is morpheme-internal two and a half to one. For these subjects, the fewest correct responses produced in any position occurred for the medial position where /s/ is word and morpheme-internal.

Discussion: This research question arose from looking at the morphophonemic alternations produced by many phonologically disordered children. In these cases, segments that are deleted in the word-final position are often realized (produced) in intervocalic position. For example, a child might produce the following alternation for the morpheme pig: [pI] ~ [pIgI]. In such cases, the realization of the segment /g/ between vowels provides evidence that the child represents the morpheme underlyingly with a final /g/ that has been deleted in the word-final position. From the perspective of training, it seemed reasonable to expect that if children were taught to produce the correct final segment in a morpheme, they would be able to use that segment appropriately in morphophonemically related contexts. This type of training, then, was expected to facilitate generalization to certain medial contexts - specifically those in which /s/ occurs at a morpheme boundary.

The discrepancy between these subjects' productions of /s/ in medial or intervocalic position, based on whether /s/ is morpheme-final or morpheme-internal, argues that the subjects internalized something about the morphological shape of these final /s/ morphemes. It is argued that children taught in this fashion, that is in word-final position, learn a morpheme concept, a concept of a word as a whole. When these words or morphemes come to appear with other morphemes, placing the target phoneme in non-final position, the children maintain their phonological and morphological representation of the morpheme type and preserve production of the entire morpheme, including the now intervocalic /s/.

BEST COPY AVAILABLE

All of the children in the present study who generalized eventually generalized to both medial positions, although to differing degrees. It seems reasonable, therefore, to conclude that training fricatives in the final position is effective in facilitating generalization to intervocalic or medial position in general, but especially to medial contexts where morphemes that end with /s/ are inflected. The basic conclusion is that there is good reason to view teaching of /s/ in the final position as efficient for generalization to intervocalic position.

In conclusion, based on these results, it appears that teaching /s/ in morpheme-final position has the effect of facilitating /s/ production in certain intervocalic contexts, specifically, inflected final /s/ morphemes. These results argue for further research into the role of the morpheme in phonological learning.

BEST COPY AVAILABLE

TABLE 1

/S/ PROBE LIST

INITIAL	FINAL	MEDIAL (morpheme-final)	MEDIAL (morpheme-medial)
sell	pass	passing	possum
sit	race	racing	wrestle
soup	miss	missing	muscle
sign	puss	pussy	listen
sun	ice	icicle	bicycle
soap	toss	tossing	faucet
seam	loose	looser	lesson
see	mouse	mousie	whistle
saw	bus	hissing	lasso
sad	yes	bossy	recipe

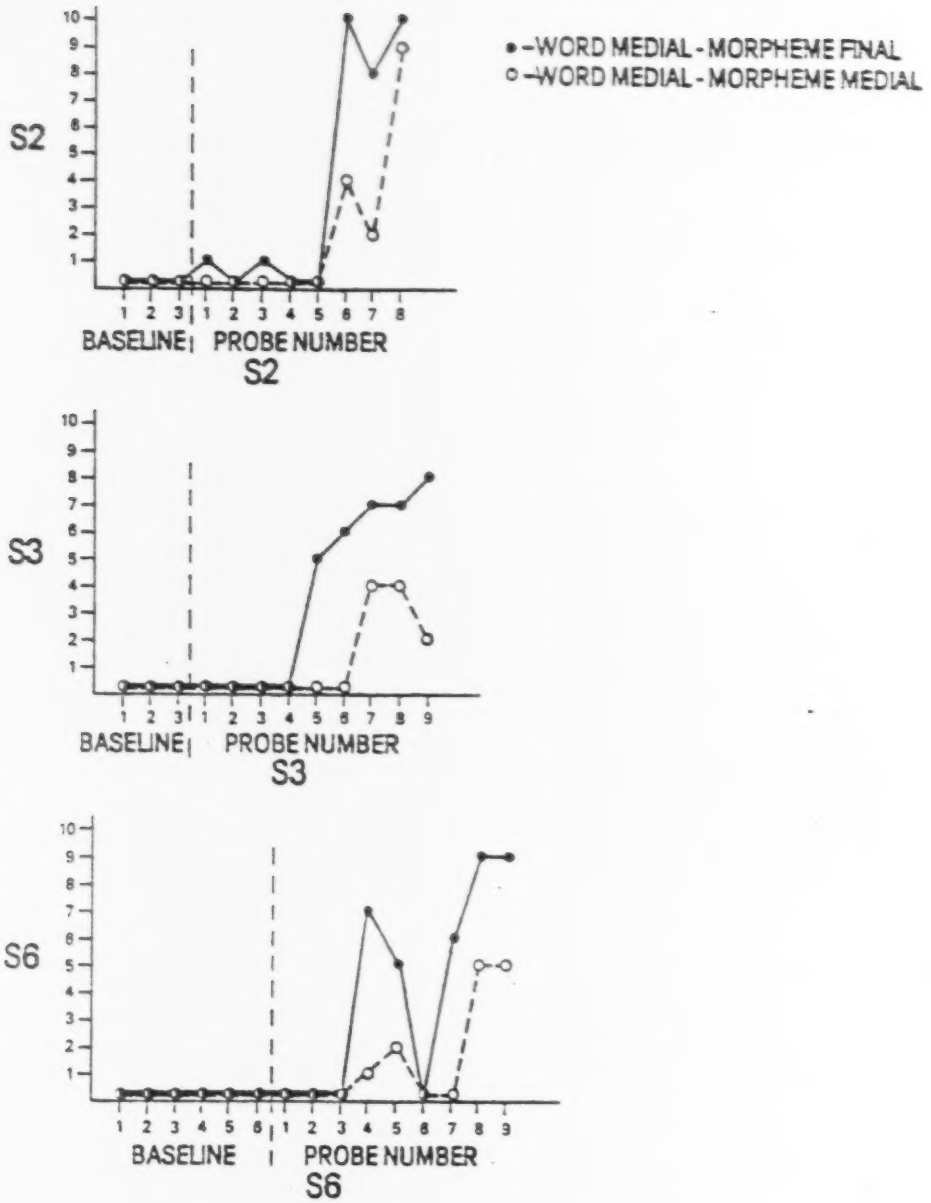
Training Words: hiss moose boss

COMPARISON OF /s/ PRODUCTION IN MEDIAL POSITION
FOR SUBJECTS WHO ACHIEVED GENERALIZATION CRITERION
(MORPHEME-FINAL vs. MORPHEME-MEDIAL)

	PROBE	MORPHEME-FINAL WORD-FINAL	MORPHEME-FINAL WORD-MEDIAL	MORPHEME-MEDIAL WORD-MEDIAL
	1	-	1 (missing)	-
	2	-	-	-
	3	-	1 (hissing)	-
	4	1 (race)	-	-
S2	5	-	-	-
	6	8	10	4
	7	8	8	2
	8	10	10	9
	1	1 (ice)	-	-
	2	2 (ice/bus)	-	-
	3	7	-	-
	4	10	-	-
S3	5	10	5	-
	6	10	6	-
	7	10	7	4
	8	10	7	4
	9	10	8	2
	1	-	-	-
	2	-	-	-
	3	-	-	-
	4	8	7	1
S6	5	8	5	2
	6	-	-	-
	7	8	6	-
	8	10	9	5
	9	10	9	5

TABLE 2

FIGURE 1



COMPARISON OF MEDIAL /s/ PRODUCTIONS IN SUBJECTS WHO GENERALIZED MORPHEME-FINAL VS. MORPHEME-MEDIAL

TABLE 3

CORRECT PROBE RESPONSES PRODUCED IN EACH WORD/MORPHEME POSITION BY SUBJECTS AND ACROSS SUBJECTS

SUBJECT	# OF PROBES	INITIAL	FINAL	MEDIAL (MORPHEME-FINAL)	MEDIAL (MORPHEME-MEDIAL)
1	14	1	48	0	0
2	8	5	27	30	15
3	9	8	70	33	10
4	9	26	21	4	2
5	11	0	3	0	0
6	9	33	44	36	13
TOTAL:	60	73	213	103	40